

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on July 29, 2003.

In the Claims

Claims 1, 6, 8, 14, 17, 20, and 28 are amended, claims 3, 5, 7, 19, 30, and 31 are canceled, and claims 32-38 are added; as a result, claims 1-2, 4, 6, 8-18, 20-29, and 32-38 are now pending in this application. Applicant respectfully submits that the proposed claim amendments place the claims in condition for allowance, and therefore Applicant requests that the amendments be entered.

102 Rejection of the Claims

Claims 1-31 were rejected under 35 USC § 102(b) as being anticipated by Galles et al. (US. Patent No. 5,721,819, hereinafter referred to as Galles). Applicant respectfully submits that the amended claims overcome the rejection under 35 USC §102(b) over Galles. In particular, Applicant respectfully submits that Galles does not anticipate the subject matter recited in the amended claims.

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added).

Amended independent claim 1 recites “a system control hierarchy, wherein the system control hierarchy includes, a level one controller within each processing node, a level two controller providing rack-wide control, and a level three controller providing system-wide control.” According to Galles, Figure 2 teaches a relatively complex node architecture, which includes a number of hubs. See Galles at col. 5, lines 29-30 and Figure 2. Figure 3 describes components that make-up each hub. See Galles at col. 5, lines 44-57 and Figure 3. Each hub

includes processors 304, memory 312, and hub controller 308. *See* Galles at Figure 3. According to Galles, the “Hub controller 308 controls access to the resources of hub 208 by other hubs 208 on the network.” Galles at col. 5 lines 52-53. Although Galles describes the hub controller, it does not describe a system control hierarchy including a level-one controller, level-two controller, and a level-three controller, as recited in amended independent claim 1.

Claims 2, 4, 6, and 8-16 depend on amended independent claim 1 and therefore include all of claim 1's limitations. Because Galles does not teach all the limitations of amended independent claim 1, Applicant respectfully submits that Galles does not teach all the limitations of the claims depending on claim 1. Additionally, applicant submits that Galles does not teach the limitations recited in the dependent claims noted above. For example, dependent claim 4 recites, “the common communication interface of each node may be directly coupled together, thereby eliminating the routing module.” In Galles, each hub 208 is connected with a router 204. *See* Galles Figures 2-3. However, Galles does not describe connecting the hubs without using a router. Thus, Galles does not teach a common communication interface for eliminating the routing module, as recited in dependent claim 4. As another example, dependent claim 9 recites coupling the nodes to the routing modules using a high-speed Universal Serial Bus. Applicant respectfully points out that Galles does not mention using a high-speed Universal Serial Bus.

Amended independent claim 17 recites a node that has an I/O interface and a common communication interface, “wherein the common communication interface of the node may be directly coupled to a common communication interface of another node via the I/O interface.” The Office Action asserted that Galles' routers teach claim 17's common communication interface. The Office Action also asserted that Galles' nodes teach claim 17's modular processing node. *See* the Office Action at page 2, first full paragraph.

According to Galles, routers connect hubs together to form a node. *See* Galles at col. 5, lines 29-43. However, there is no teaching in Galles to connect (i.e. to form a communication interface between) a number of hubs without a router. Although each hub includes an I/O controller, which provides a network interface to one or more I/O devices, the I/O controller does not allow for coupling nodes through the nodes' common communication interfaces. *See* Galles

at col. 5, lines 52-57. Therefore, Galles does not teach the common communication interface recited in amended independent claim 17.

Amended independent claim 28 includes limitations similar to those recited in amended independent claim one. Applicant respectfully submits that amended independent claim 28 is allowable for at least the reasons discussed above with reference to amended independent claim 1, plus the limitations recited in the claim. Claims 29 and 30 depend from amended independent claim 28 and therefore include the limitations recited in claim 28. Applicant respectfully submits that dependent claims 29 and 30 are allowable for at least the reasons given above, with reference to amended independent claim 28.

New claims 32-38 have been added. Applicant respectfully submits that new claims 32-38 are patentable at least for reasons similar to those discussed above, plus the limitations recited in the claims.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 371-2169) to facilitate prosecution of this application.

Response to Notice of Non-Compliant Amendment

Serial Number: 09/408874

Filing Date: September 29, 1999

Title: MODULAR COMPUTING ARCHITECTURE HAVING COMMON COMMUNICATION INTERFACE

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Dkt: 499.034US1

As noted above, the preceding "IN THE CLAIMS" and "REMARKS" sections are corrected versions of those submitted in the original amendment paper mailed on December 1, 2003. If the Examiner has any questions regarding this response to the Notice of Non-Compliant Amendment, please contact Andrew DeLizio at 612-371-2169.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 15th day of January 2004.

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